REMARKS/ARGUMENTS

Prior to this amendment, claims 1-24 were pending. Note that the amendments to the claims in the response filed April 7, 2009 were not entered. In this amendment, claims 1, 9 and 15 are amended. Claims 23-24 are canceled, and claim 25 is added. No new matter is added. Thus, after entry of this amendment, claims 1-22 and 25 will be pending.

Interview

Applicants would like to thank the Examiner for extending the courtesy of a telephone interview with counsel, David B. Raczkowski, on March 27, 2009, where differences between the pending claims and the cited references were discussed, along with differences from potential amendments to the claims.

Election / Restrictions

Claims 23 and 24 were held to be directed to an independent invention from claims 1-22. Claims 23 and 24 are now canceled.

Claim Objections

Claim 15 is objected to, but it is not clear exactly what the objection is. It appears that the Office Action objects to claim 15 containing functional language that is not appropriate for an apparatus claim.

Applicants have amended claim 15 to include a computer readable medium containing the structural elements of code. Applicants submit that each functional element resulting from the code must be addressed. *See* MPEP § 2106.01.

Claim Rejections - 35 USC § 103(a), Culbertson

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson et al (US Pat. 5,790,771; hereinafter referred to as Culbertson).

Claim 1

Claim 1 is allowable over Culbertson as Culbertson fails to teach or suggest all the elements of claim 1. For example, claim 1 recites:

> receiving a _second_ plurality of failed test patterns resulting from applying
> one or more test values to tests paths on one or more _other programmable_

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> *integrated circuits, wherein the other programmable circuits have a same*
> *architecture as the programmable integrated circuit;*
> > *identifying a subset of the routing resources on the programmable*
> *integrated circuit based on the first plurality of failed test patterns and on the*
> *second plurality of failed test patterns.*

Culbertson mentions receiving tests of failed generators of only <u>one</u> particular circuit to identify defective resources on that one circuit. *See Culbertson*, col. 2 lines 3-8 and col. 8 lines 21-34. Accordingly, Culbertson does not teach or suggest "*receiving a second plurality of failed test patterns resulting from applying one or more test values to tests paths on one or more <u>other programmable integrated circuits</u>,*" as recited in claim 1. Support for this claim element can be found, for example, at paragraph 32.

Furthermore, Culbertson does not mention using failed generators of <u>one circuit</u> to identify failed resources in <u>another circuit</u>. Accordingly, Culbertson does not teach or suggest "*identifying a subset of the routing resources on the programmable integrated circuit based on the first plurality of failed test patterns and on the <u>second</u> plurality of failed test patterns,*" as recited in claim 1.

For at least these reasons, claim 1 is allowable over the cited references.

Claim 9

Applicants submit that claim 9 and its dependent claims are allowable for at least a same rationale as claim 1.

Claim 15

Claim 15 is allowable over Culbertson as Culbertson fails to teach or suggest all the elements of claim 15. For example, claim 15 recites the computer readable medium comprising code for a statistical failure isolation (SFI) tool, wherein the SFI tool:

> (c) *calculates a total number of occurrences of each resource in the*
> *failed test paths received in the file, at least one resource occurring in two failed*
> *test paths; and*
> > (d) *identifies a subset of the routing resources <u>based only on the test</u>*
> *<u>patterns that have failed</u>, wherein the subset comprises one or more resources*
> *having the highest number of occurrences; and*

> *code for an adaptive failure isolation (AFI) tool that <u>subsequent to
> completion of (b)-(d)</u> generates new test patterns including program bits that
> define new test paths for testing the subset of the routing resources.*

After all of the resources have been adequately tested (step 58), Culbertson
identifies the resources that remain marked as being defective and stores the identification of the
defective resources in the database (step 60). *Id.*, FIG. 4B. At page 9, the Office Action states
that keeping count of the number of times that a resource appears in a failing configuration is a
matter of design choice. A simple statement that a feature is a design choice is not a proper
rejection. *See* MPEP 2144.04 (C). A motivation for why one skilled in the art would make such
choices is still required.

Furthermore, even if it was obvious for step 60 to include the count of the number
of failed configurations, such a step would occur <u>after all of the configurations are tested</u>, i.e.
after new configurations were tested. Thus, the new test patterns would be tested <u>prior</u> to the
counting. In contrast, claim 15 recites "<u>*subsequent to completion of (b)-(d)*</u> *generates new test
patterns.*"

Additionally, Culbertson starts out by assuming that all of the resources are
defective. *Id.*, col. 8 lines 36-38. When a resource is part of a generator that <u>passes</u> the test, it is
marked as non-defective. *Id.*, col. 8 lines 50-54. Culbertson then identifies the resources that are
still marked as defective. *Id.*, col. 9 lines 28-30.

Thus, even if Culbertson did describe identifying a subset for further testing, the
identification would be <u>based also on tests that have passed</u>. Accordingly, Culbertson does not
teach or suggest an SFI tool that "*identifies a subset of the routing resources based <u>only</u> on the
test patterns that have failed,*" as recited in claim 15.

For at least these reasons, claim 15 is allowable over the cited references.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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